

[19] Patent Bureau of People's Republic of China

[11] Laid-Open No. CN 1094895A

[12] Laid-Open Patent Application

[21] Application No. 93111110.2

[43] Laid-Open Date: 16 November 1994

[22] Application Date: 7 May 1993

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No. of Pages in Description: 2      No. of Figures

Title: Dental Care Chewing Gum

#### Abstract

The formula for a cavity-fighting dental-care chewing gum includes extract from *houpu*<sup>1</sup>, gum base, corn syrup, powdered sugar, glycerin, food essence, lecithin, caramel, citric acid and supplements. The preparation process begins with pulverization of the *houpu* extracts, which is then evenly distributed in the powdered sugar. The resulting *houpu* medicinal powdered sugar is later added to a mixture of gum base, caramel, lecithin and corn syrup in a mixer together with food essence, glycerin, citric acid and supplements. The mixture is then molded, cooled and sliced to produce the final product. This product formula suppresses *Streptococcus mutans* and lactobacilli, and has minimal toxic side effects.

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<sup>1</sup>Mandarin Chinese for a herbal plant whose Latin name is cortex magnoliae officinalis-Tr.

## Description

### Dental-Care Chewing Gum

This invention is a health product that can be used in medicine to prevent and fight tooth decay.

At present, the medical profession here and abroad does not offer an ideal method of preventing and treating dental caries, a dental disease most common to human beings and popularly known as 'wormed tooth' in this country. According to records, people had this disease as early as the Bronze Age. With the passage of time and the evolution of the human species, the incidence of this ailment increased considerably. According to surveys conducted in this country, the incidence of dental caries stands around 80% at present, with a tendency to increase among children year by year. The problem causes inconvenience and pain, and seriously affects the appearance of young people. Therefore, research and development of a new dental care product that prevents and treats dental caries is a challenge calling for a solution.

The purpose of this invention is to provide a dental-care chewing gum that is unique in its formula, involves a simple preparation process, is low in costs, convenient to use, and changes the oral environment, significantly suppressing *Streptococcus mutans* and lactobacilli in the mouth.

The purpose of this invention is realized in this way: formula for the product is specified as 0.2-0.5% of *houpu* extract, 16-18% of gum base, 17-22% of corn syrup, powdered sugar 45-55%, 0.5-0.6% of glycerin, 0.7-0.9% of food essence, 0.2-0.3% of lecithin, 1.5-2% of caramel paste, 0.1-0.2% of citric acid, and 0.5% of supplements; its preparation process is as follows: *houpu* extract is pulverized and distributed evenly in powdered sugar. The resulting *houpu* medicinal powdered sugar is set aside for later. At a temperature of 43°C, molten gum base, caramel, lecithin and maple syrup are added into a mixer and mixed for two to three minutes. Then while the mixing process continues, already well-mixed *houpu* medicinal powdered sugar is added into the mixer together with food essence, glycerin, citric acid and supplements. Mixing continues until the ingredients are thoroughly mixed. The mixture is then poured into a mold, pressed, cooled, and sliced for package. The main features of this invention lies in its formula and the preparation process.

Its pharmacological analysis and usage are described here. The mechanism behind the incidence of tooth decay is not completely clear yet. According to clinical observation and study, it is the result of long-term interaction between bacteria, the host and food. Research indicates that cariogenic bacteria are mainly oral flora such as *Streptococcus mutans* and lactobacilli that can produce acid. The bacteria metabolism and the food decomposition and fermentation produces acidic material that causes the inorganic salts to dissolve and decalcify. The calcium-deficient tooth matter falls prey to bacteria that dissolve the protein in the tooth [sic]. Gradually, the tooth is damaged and cavities form. The most effective measure yet to prevent and treat tooth decay is to keep up good oral hygiene, change the oral environment and control the pathogenic bacteria and matter. Dental care chewing gum offers obvious power to suppress the effects of pathogenic bacteria, that is, *Streptococcus mutans* and lactobacilli. This medicinal health product is able to change the oral environment, suppress and kill cariogenic bacteria, and yet does not affect the distribution of oral flora. It is readily accepted by children because it can be chewed as a confection while at the same time preventing and treating tooth decay. The usage would be three to four sticks a day over a course of three months.

In comparison to the state of the art, this dental-care chewing gum is scientific in its formula, involves a simple preparation process, is low in toxic side effects, has chemically stable herbal ingredients, is safe and reliable, and therefore will be widely adopted in medicine.

### Claim

1. Dental-care chewing gum characterized by the fact that a formula comprising 0.2-0.5% of *houpu* extract, 16-18% of gum base, 17-22% of corn syrup, powdered sugar 45-55%, 0.5-0.6% of glycerin, 0.7-0.9% of food flavoring, 0.2-0.3% of lecithin, 1.5-2% of caramel paste, 0.1-0.2% of citric acid, and 0.5% of supplements is prepared by pulverizing the *houpu* extract and distributing it evenly in powdered sugar, setting aside the resulting *houpu* medicinal sugar for later and meanwhile, at a temperature of 43°C, introducing molten gum base, caramel, lecithin and maple syrup into a mixer, mixing for two to three minutes, and then as the mixing process continues, adding the already well-mixed *houpu* medicinal powdered sugar into the mixer together with food flavoring, glycerin, citric acid and supplements; continuing mixing until the ingredients are thoroughly mixed, and pouring the mixture into a mold, pressing, cooling, slicing and packaging.

*Tooth Protecting Chewing Gum From Control  
of Dental Caries*

[19]中华人民共和国专利局

[11] 公开号 CN 1094895A



[12] 发明专利申请公开说明书

[21]申请号 93111110.2

[51]Int.Cl<sup>5</sup>

A23G 3/00

[43]公开日 1994年11月16日

[22]申请日 93.5.7

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说明书页数: 2 附图页数:

[54]发明名称 健齿口香糖

[57]摘要

一种用于防治龋齿的健齿口香糖, 它的配方由厚朴提取物、胶基、玉米糖浆、糖粉、甘油、食用香精、卵磷脂、蔗糖糊、柠檬酸、辅料组成, 其制备工艺是将厚朴提取物粉碎成细粉状, 均匀分散于糖粉中成为厚朴药糖粉, 将胶基、蔗糖糊、卵磷脂、玉米糖浆加入搅拌机中搅拌, 再加入厚朴药糖粉及食用香精、甘油、柠檬酸、辅料搅拌均匀, 压片冷却即成。该产品配方, 具有抑制变形链球菌和乳酸杆菌, 毒副作用低。

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